UNITED STATES PATENT AND TRADEMARK OFFICE

NOTICE OF ALLOWANCE AND FEE(S) DUE

66083 7590 07/13/2010		

Polsinelli Shughart PC
on behalf of Oracle America, Inc.
700 West 47th Street
Suite 1000
Kansas City, MO 64112

EXAMINER
TECKLU, ISAAC TUKU

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 07/13/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,164	05/06/2004	Nicolai Kosche	188378/US/2	7512

TITLE OF INVENTION: METHOD AND APPARATUS FOR PROFILING DATA ADDRESSES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$0	$0	$1510	10/13/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED.   THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

Complete and send this form, together with applicable fee(s), to: <u>Mail</u> Mail Stop ISSUE FEE
Commissioner for Patents
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

66083   7590   07/13/2010

Polsinelli Shughart PC
on behalf of Oracle America, Inc.
700 West 47th Street
Suite 1000
Kansas City, MO 64112

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,164	05/06/2004	Nicolai Kosche	188378/US/2	7512

TITLE OF INVENTION: METHOD AND APPARATUS FOR PROFILING DATA ADDRESSES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$0	$0	$1510	10/13/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
TECKLU, ISAAC TUKU	2192	717-130000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE   (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) :   ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): (**Please first reapply any previously paid issue fee shown above**)

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.   ❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/840,164	05/06/2004	Nicolai Kosche	188378/US/2	7512

			EXAMINER
66083	7590	07/13/2010	TECKLU, ISAAC TUKU

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2192	

DATE MAILED: 07/13/2010

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 705 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 705 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

	Application No.	Applicant(s)
Notice of Allowability	10/840,164	KOSCHE ET AL.
	Examiner	Art Unit	
	ISAAC T. TECKLU	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *04/28/2010*.

2. ☒ The allowed claim(s) is/are *1-3, 5-9, 11, 14-27, 30, 32-37, 39-42, 44-50, 52-56 and 58 (renumbered as 1-47)*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

         3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

     * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

     (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

         1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

     (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

         Paper No./Mail Date _____ .

     Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

/Isaac T Tecklu/ Examiner, Art Unit 2192	/Tuan Q. Dam/ Supervisory Patent Examiner, Art Unit 2192

DETAILED ACTION

1.   Claims 4, 13, 28, 38, 43, 51 and 57 have been previously cancelled.

2.   Claims 10, 12, 29 and 31 are now being cancelled.

3.   Claims 1-3, 5-9, 11, 14-27, 30, 32-37, 39-42, 44-50, 52-56 and 58 are allowed.

EXAMINER'S AMENDMENT

4.   An examiner's amendment to the record appear below. Should the change and/or additions

be unacceptable to the Applicant, an amendment may be filed as provided by 37 CFR 1.312. To

ensure consideration of such amendment, it MUST be submitted no later than the payment of issue

fee.

        Authorization for examiner's amendment was given in a telephone interview with Gregory

P. Durbin, Reg. No. 42,503, on June 25, 2010 to put the case in condition for allowance.

5.   The Claims are amended, as presented below, to adopt the changes provided by Applicant's

representative on June 25, 2010.

        IN THE CLAIMS:

        The listings of claims below will replace all prior versions, and listings, of claims in the

application as follows:

        Please cancel claims 10, 12, 29 and 31 and amend claims 1, 11, 16, 30, 33, 41, 47 and 55 as

follows:

1.   (Currently Amended) A tangible <u>non-transitory</u> computer readable storage medium

comprising a computer-implemented software profiling tool that determines at least one data

address from one or more instruction instances, and that identifies one or more memory reference

objects, which are associated with the data address, as hindering execution of code that includes the

instruction instances, wherein the instruction instances correspond to the code execution hindrance,

wherein the memory reference objects include virtually addressable memory<u>, the profiling tool</u>

<u>aggregates addresses based on the memory reference objects and provides the aggregated addresses</u>

<u>and an indication of the code execution hindrance corresponding to the aggregated addresses for</u>

<u>one or more of storage and display</u>.

2.   The software profiling tool of claim 1 wherein the memory reference objects include

one or more of physical memory reference objects and logical memory reference objects.

3.   The software profiling tool of claim 2 wherein the memory reference objects include

one or more of a cache, cache lines, cache levels, cache sub-blocks, memory controllers, addressable

memory, and memory-management page translation units.

4.   (Cancelled)

5.   The software profiling tool of claim 2 wherein the logical memory reference objects

include one or more of source-level data objects, memory segments, heap variables, variable

instances, and stack variables.

6.   The software profiling tool of claim 5 wherein the source-level data objects include one or more of functions, statically linked objects, data structures, data types, data type definitions, operands, and expressions.

7.   The software profiling tool of claim 6 wherein the statically linked objects include one or more of global variables and static variables.

8.   The software profiling tool of claim 1 wherein the software tool includes one or more of a compiler, an interpreter, an optimization tool, and a virtual machine.

9.   The software profiling tool of claim 1 wherein the code includes one or more of machine code, byte code, and interpreted code.

10.   (Cancelled)

11.   (Currently Amended) The software profiling tool of claim [[10]] 1 wherein the software tool utilizes at least a portion of the data addresses to aggregate the addresses.

12.   (Cancelled)

13.   (Cancelled)

14.   The software profiling tool of claim 1 wherein the code execution hindrance

corresponds to one or more sampled runtime events.

15.   The software profiling tool of claim 14 wherein the sampled runtime events include

one or more of cache misses, cache references, data translation buffer misses, data translation buffer

references, and counter condition events.

16.   (Currently Amended) A method for profiling code executing in a computer system,

the method comprising:

        a processor and a storage medium including programmed instructions for:

        identifying an instruction instance that corresponds to a runtime event;

        determining a data address from the instruction instance; [[and]]

        determining a memory reference object from the determined address;

        wherein the data address includes a virtual address in the computer system;

        aggregating a plurality of addresses that include the determined address, based on the

memory reference object; and

        providing the aggregated plurality of addresses for one or more of display, storage, and

manipulation.

17.   The method of claim 16 wherein the runtime event is a sampled runtime event.

18.   The method of claim 16 wherein identifying the instruction instance comprises

backtracking from a second instruction instance to the instruction instance.

19.   The method of claim 16 wherein determining the address from the instruction

instance comprises decoding the instruction instance.

20.   The method of claim 19 further comprising:

decoding the instruction instance if a register that hosts the instruction instance is determined as

valid.

21.   The method of claim 20 wherein determining if the register is valid comprises:

applying reverse register transformation with respect to the runtime event; and

determining whether the register is valid based on the applied reverse register

transformation.

22.   The method of claim 16 wherein the memory reference object includes a physical

memory reference object or a logical memory reference object.

23.   The method of claim 22 wherein the physical memory reference object includes

cache, a cache line, a cache sub-block, a cache level, a memory controller, or a memory-management

page translation unit.

24.   The method of claim 16 wherein the logical memory reference object includes a

source-level data object, a memory segment, a heap variable, or a stack variable.

25.   The method of claim 24 wherein the source-level data object includes a data type, a

data type definition, a statically linked object, an operand, a data structure, or an expression.

26.   The method of claim 25 wherein the statically linked object includes a global variable

or a static variable.

27.   The method of claim 16 wherein the instruction instances include memory accessing

instructions.

28.   (Cancelled)

29.   (Cancelled)

30.   (Currently Amended) The method of claim [[29]] 16 wherein the aggregating of the

plurality of addresses utilizes at least a portion of the addresses.

31.   (Cancelled)

32.   The method of claim 16 embodied as a computer program product encoded on one

or more machine-readable physical storage media.

33.   (Currently Amended) A method of profiling code executing in a computer system, the

method comprising:

using a processor and a memory, associating data addresses with memory reference objects,

wherein the data addresses have been determined from instruction instances corresponding to code

execution hindrance; [[and]]

aggregating the data addresses based on their associated memory reference objects; and

providing the aggregated data addresses for one or more of display, storage, and

manipulation;

wherein the data addresses include virtual addresses in the computer system.

34.   The method of claim 33 wherein the instruction instances include memory accessing

instructions.

35.   The method of claim 33 wherein the code execution hindrance corresponds to one

or more runtime events.

36.   The method of claim 35 wherein the runtime events are sampled runtime events.

37.   The method of claim 35 wherein the runtime events include one or more of counter

condition events, cache misses, cache references, data translation buffer references, and data

translation buffer misses.

38.   (Cancelled)

39. The method of claim 33 wherein said aggregating utilizes at least a portion of the data addresses.

40. The method of claim 33 embodied as a computer program product encoded on one or more machine-readable physical storage media.

41. (Currently Amended) A method of profiling code in a computer system comprising:

in the computer system including at least one processor and at least one non-transitory storage media, identifying an instruction instance corresponding to a runtime event;

determining whether the instruction instance is valid;

decoding the instruction instance to extract at least a portion of a data address if the instruction instance is valid;

determining a memory reference object with the extracted portion of the address; [[and]]

aggregating the data address with other addresses based at least in part on the memory reference object, wherein the memory reference object includes virtual addresses in the computer system; and

providing the aggregated data addresses for one or more of display, storage, and manipulation.

42. The method of claim 41 further comprising associating the extracted portion of the data address with the memory reference object.

43. (Cancelled)

44.   The method of claim 41 wherein the runtime event is a sampled runtime event.

45.   The method of claim 41 further comprising:

applying reverse register transformation with respect to the runtime event to determine if the

instruction instance is valid.

46.   The method of claim 41 embodied as a computer program product encoded on one

or more machine-readable physical storage media.

47.   A non-transitory computer program product for profiling code, encoded on one or

more machine-readable physical storage media, the computer program product, which when

executed, performs operations comprising:

    identifying a valid instruction instance that corresponds to a runtime event;

    determining a data address from the identified valid instruction instance;

    determining a memory reference object with the determined data address; [[and]]

    aggregating a set of addresses, which include the determined data address, based at least in

part on the memory reference object, wherein the memory reference objects include virtually

addressable memory; and

    providing the aggregated set of addresses for one or more of display, storage, and

manipulation.

48.   The computer program product of claim 47 wherein the operations further comprise associating the determined data address with the memory reference object.

49.   The computer program product of claim 47 wherein the operations further comprise:

applying reverse register transformation with respect to the runtime event; and determining if the instruction instance is valid from the applied reverse register transformation.

50.   The computer program product of claim 47 wherein the memory reference object includes a physical memory reference object or a logical memory reference object.

51.   (Cancelled)

52.   The computer program product of claim 50 wherein the logical memory reference object includes a source-level data object, a memory segment, a heap variable, a variable instance, and a stack variable.

53.   The computer program product of claim 52 wherein the source-level data object includes a data type, a data type definition, an operand, a statically linked object, a data structure, or an expression.

54.   The computer program product of claim 53 wherein the statically linked object includes a global variable or a static variable.

55.   (Currently Amended) An apparatus comprising:

a processor;

memory; and

means for identifying a memory reference object and identifying a data address

corresponding thereto from an instruction instance that corresponds to one or more runtime events,

and aggregating a set of addresses that include the data address, based at least in part on the memory

reference object, wherein the memory reference object includes virtually addressable memory; and

        means for providing the aggregated addresses and an indication of code execution hindrance

corresponding to the aggregated addresses for one or more of storage and display.

56.   The apparatus of claim 55 wherein the memory reference object includes a physical

memory reference object or a logical memory reference object.

57.   (Cancelled)

58.   The apparatus of claim 56 wherein the processor includes event condition counters.

--End--

Allowable Subject Matter

6.   The following is an examiner's statement of reasons for allowance:

As applicant pointed out under Remark section, pages 8-9, Yates Jr., et al. (US 7,111,290), taken either singly and/or in combination with other cited prior arts, do not teach the combined functional limitations of identifying one or more memory reference objects, which are associated with the data address, as hindering execution of code that includes the instruction instances, wherein the instruction instances correspond to the code execution hindrance, wherein the memory reference objects include virtually addressable memory, the profiling tool aggregates addresses based on the memory reference objects and provides the aggregated addresses and an indication of the code execution hindrance corresponding to the aggregated addresses for one or more of storage and display, as recited in such manners in each of independent claims 1, 16, 33, 41, 47 and 55.

Prior arts of record do not teach and/or suggest these claimed limitations, thus, all remaining pending claims 1-3, 5-9, 11, 14-27, 30, 32-37, 39-42, 44-50, 52-56 and 58 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to ISAAC T. TECKLU whose telephone number is (571) 272-7957. The examiner can normally be reached on M-TH 9:300A - 8:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Isaac T Tecklu/   /Tuan Q. Dam/
Examiner, Art Unit 2192   Supervisory Patent Examiner, Art Unit 2192